




Topics for discussion?

- **Status of vehicle-level data (VLD) in FAST**
- **Frequently-asked questions about...**
 - Where do I start?
 - Reporting hierarchy and VLD?
 - Agency budget element codes?
 - Testing and the FAST Sandbox?
 - Reporting different types of vehicle costs?
 - Blocking/flagging business rule problems?
 - Working with data from more than one fleet MIS?
 - VLD and FAST reports?
- **What do you want to discuss?**



VLD: Where to start...

- **VLD Resources**
 - <https://fastweb.inl.gov/help/index.cfm/resources/vehicle-level-data>
- **Data Element Reference**
 - What data is reported?
- **Business Rules Reference**
 - How is the data validated?
- **XML schema & Excel import templates**
 - How is the data formatted?
- **Additional resources**
 - Cost decision tree, examples, presentations

The “VLD Resources” page within FAST’s help Web site contains several valuable resources for agency users and technical support staff as they transition to reporting VLD in FAST.

Data Element Reference: Specifies what data is to be reported

Business Rules Reference: Specifies how that data will be validated

XML schema & Excel import templates: Specify how the data must be formatted in order for it to be processed and imported into FAST

Additional resources:

- Cost decision tree: detailed breakdown of how different types of vehicle costs are to be reported
- Example import files in several different formats
- Copies of past presentations related to reporting VLD



Reporting hierarchy and VLD

- **History: reporting hierarchy mattered**
 - FAST-imposed constraints
 - Foreign v. domestic segregation
 - Fleet-level EPCa exemptions
 - Designation of “report elements” within hierarchy
 - Explicit linkage between hierarchy and OMB A-11 AFBS
 - Agency usage patterns:
 - Extensive delegation of data entry
 - Data coming from multiple systems/sources
- **With VLD, hierarchy becomes less important / limiting**
 - Agencies with FMIS don’t need a FAST reporting hierarchy...
 - ... but there are situations where a hierarchy may still be useful

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Reporting hierarchy and VLD

- Organization abbreviation links vehicle to hierarchy

Edit Element

Instructions: Items in **Bold** are required.

Element Information

- Organization Name: Bureau of Engraving and Printing
- Organization Name Abbreviation: **BEP**
- Parent Node: Department of the Treasury

Department of the Treasury

- Bureau of Engraving and Printing
- Bureau of Fiscal Services
- Comptroller of the Currency
- Criminal Investigation
- Departmental Offices Fleet

Elements subordinate to Department of the Treasury

Note: Red elements indicate the deletion of that element.

Up One Level Show Deleted

Add an Element

Abbrev	Name	Action
BEP	Bureau of Engraving and Printing	Edit Delete
BFS	Bureau of Fiscal Services	Edit Delete
OCC	Comptroller of the Currency	Edit Delete
IRS CI	Criminal Investigation	Edit Delete
DOF	Departmental Offices Fleet	Edit Delete
FinCEN	Financial Crimes Enforcement Network Fleet	Edit Delete
AWSS	IS Agency Wide Shared Services	Edit Delete
IRS Excise	IS Fuel Compliance	Edit Delete
OFAC	Office of Foreign Assets Control	Edit Delete
OIG Fleet	Office of Inspector General	Edit Delete
SIGTARP	Office of the Special Inspector General TARP	Edit Delete
TTB	Tax and Trade Bureau	Edit Delete
TIGTA	TIGTA Fleet	Edit Delete
USM	United States Mint	Edit Delete

Treas

- BEP
- BFS
- OCC
- IRS CI
- DOF
- FinCEN
- AWSS
- IRS Excise
- OFAC
- OIG Fleet
- SIGTARP
- TTB
- TIGTA
- USM

Each organization's abbreviation is specified on FAST's "Edit Element" form (highlighted: left), accessible from the "Manage Hierarchy" link on the "Admin Tools" tab. The abbreviation is considered optional, but must be specified for any element within the reporting hierarchy that will be used for VLD reporting. In addition, the abbreviation must be unique within the reporting hierarchy if it is to be used for VLD reporting.

The organization abbreviations (highlighted: center and right) are also visible within the "Manage Hierarchy" page and in the hierarchy shown on FAST's "Fleet Data" tab.

Reporting hierarchy and VLD

- Organization abbreviation links vehicle to hierarchy

```
<fv:fast-vld xmlns:fv="https://fastweb.inl.gov/xml/fast-vld"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="https://fastweb.inl.gov/xml/fast-vld https://fastweb.inl.gov
  >
  <processing-directives year="2016" exist="true" />
  <fleet abbrev="BEP" p-c-name="BEP" make="BEP" />
  <vehicle vid="1" make="BEP" />
  <fuel loc="CA" type="GAS" unit="GAL" />
  </vehicle>
  <vehicle vid="2" make="BEP" />
  <fuel loc="MN" type="GAS" unit="GAL" />
  </vehicle>
  <vehicle vid="3" make="BEP" />
  <fuel loc="MN" type="GAS" unit="GAL" />
  </vehicle>
  <vehicle vid="4" make="BEP" />
  <fuel loc="MN" type="GAS" unit="GAL" />
  </vehicle>
  </fast-vld>
```

Fleet_Abbrev	VID	Make	Model
BEP		HYUNDAI	SONATAHYBR
BEP		CHEVROLET	IMPALA
BEP		CHEVROLET	IMPALA
BEP		FORD	FOCUS
BEP		FORD	FOCUS
BEP		CHEVROLET	C1500


Fleet_Abbrev	Fleet_POC_Name	Fleet_POC_Email
BEP		

The organization abbreviation is used within the XML (highlighted: upper left) in each “fleet” element’s “abbrev” attribute. All vehicles contained within that “fleet” XML element are associated with the corresponding fleet. All fleets identified in the XML file must already exist within the reporting agency’s FAST hierarchy for the corresponding reporting year, and only one fleet with the specified abbreviation may exist in that year’s FAST reporting hierarchy.

The organization abbreviation is also used in the VLD Excel import template in two locations:

1. The list of fleets to be affected by the import process must be identified, one per row, on the “Fleets” tab of the import template (highlighted: center). Each fleet identified on that tab of the template must exist within the reporting agency’s FAST hierarchy for the corresponding year, and only one fleet with the specified abbreviation may exist in that year’s FAST reporting hierarchy.
2. In addition, the fleet each individual vehicle is associated with within the FAST reporting hierarchy is specified in column “A” (highlighted: right) on the “Vehicles” tab of the import template. Any fleet listed for a vehicle on the “Vehicles” tab must be listed in one of the rows on the “Fleets” tab of that same import template. Note, however, that a fleet listed on the “Fleets” tab may have zero vehicles listed on the “Vehicles” tab (e.g., in situations where the import template is being used to purge vehicles in a fleet).

Because the fleets identified in the VLD data streams (both XML and Excel) must already exist within FAST in order for the data to be processed, agencies will need to coordinate the maintenance of their reporting hierarchy in FAST with the processes used to generate the corresponding VLD import streams. These conversations, for example, will likely need to occur with the technical team supporting the agency’s FMIS.



Agency Budget Element Codes


- **Who should care?**
 - Very few agencies: only relevant to agencies who submit more than just agency-level OMB A-11 AFBS
- **What is a “budget element code”?**
 - Mnemonic code
 - Code: USDA-AMS
 - Organization: Department of Agriculture – Agricultural Marketing Service
 - Links vehicles + costs to portion of agency’s OMB A-11 AFBS
 - Applies to “actuals” and future-year plans
 - Provides flexibility between budgeting and FAST hierarchy
- **Where can I find mine?**
 - Ask FAST team; we have list established with GSA-OGP

Historically, very few Federal agencies have submitted multiple OMB A-11 Agency Fleet Budget Summaries (AFBSs):

- DHS: Department of Homeland Security
- DOD/OSD: Defense Agencies (represents numerous smaller components under Department of Defense’s Office of the Secretary of Defense)
- DOJ: Department of Justice
- DOI: Department of the Interior
- State: Department of State
- USDA: Department of Agriculture

All other agencies have typically submitted only a single OMB A-11 AFBS.

The budget element code must be provided for all vehicles in fleets associated with an agency who is submitting multiple OMB A-11 AFBS’s. The budget element code may be omitted for vehicles in agencies submitting only a single OMB A-11 AFBS; if omitted, FAST will provide the default budget element code.




VLD, Testing, and the FAST Sandbox

- **What will the FAST Sandbox allow you to do?**
 - Everything from the “real” FAST...
 - ... without constraints on data call open/close dates
- **Particularly useful for testing VLD-related processes**
 - Load FY 2016 data as VLD & compare to Fall 2016 FAST?
 - Load FY 2017 (YTD?) data?
- **Possible speedbumps:**
 - Presence of older sectional data (earlier FY 2016 work, syncing with production)? We can help!
 - How to purge & start over? We can help!

FAST Sandbox is available at <https://fastweb.inl.gov/sandbox/>

Agency administrators have the ability to synchronize the data for their agency from the production FAST system into the FAST Sandbox. This synchronization brings all historical data for the agency, including user accounts, from the production FAST system to the Sandbox. This enables any of the agency's FAST users to then sign into the FAST Sandbox using their same username and password.

If you have synchronized your agency's data and want to test VLD imports, etc., with FY 2016 data in the FAST Sandbox, you will first need to remove any/all FY 2016 data that may be present in the FAST Sandbox in the older section-based aggregated data shape before you can work with VLD. Contact the FAST Web team for assistance in removing that data and resetting your organization's status within the FAST Sandbox if you encounter this situation.




Wrestling with VLD blocking & flagging rules

- **Two types of rules**
 - Blocking rules: “musts”
 - Any failure will prevent data from loading
 - Flagging rules: “shoulds”
 - Failures will be flagged... but data will load
 - Example:

OW-1	Acquisition Date	OW-1.1	Type: date in XML-standard YYYY-MM-DD format	Block
		OW-1.2	Must be a valid date on or prior to the end of the report year for which data is being submitted	Block
		OW-1.3	Vehicles with acquisition dates in the report year for which data is being submitted should not be present in previous year's submissions	Flag
		OW-1.4	Vehicles with acquisition dates in previous report years should also be present in previous year's submission (with exception for agency in first year of VLD reporting)	Flag

The information within the VLD import stream must pass /all/ blocking rules in order for the data to be loaded (i.e., even a single failure of a blocking rule will prevent the file being loaded).



Wrestling with VLD blocking & flagging rules

- **What should you do with failures?**
 - Blocking failures:
 - Is the data correct?
 - **No: Fix the data!**
 - **Yes: Verify... then contact us ASAP!**
 - Flagging failures:
 - Is the data correct?
 - **No: Fix the data!**
 - **Yes: Verify... understand and move on**
- *Future: We will review & tune all flagging rules & thresholds when we have reasonably complete VLD dataset*

It is important to note that flagging failures do not necessarily mean there is a problem with the corresponding data, only that the data falls outside of expected ranges. The expectation is that agencies will evaluate flagging rule failures to ensure that the data is correct. If the flagging failure is based on incorrect data, the reporting agency should correct the data in the upstream system and then reload the data in FAST.

If your organization encounters situations where you have verified that you have legitimate, valid data which is being blocked by existing business rules, you should contact the FAST Web team as quickly as possible to discuss that issue. The FAST Web team, working with the FAST management team, will determine whether changes are needed to one or more business rules and make any needed changes.

When most agencies have transitioned to reporting VLD, the FAST management team plans to analyze reported data relevant to each flagging rule to evaluate the current thresholds and determine whether those thresholds need to be adjusted to ensure that they are appropriately set to identify legitimate outliers. Agencies should also recognize that some of those thresholds (e.g., cost ranges) will naturally evolve over time.



Working with VLD from more than one MIS

- **Example:**
 - Owned vehicles in one fleet MIS
 - GSA-leased vehicles in second fleet MIS
- **Considerations:**
 - Make sure all vehicles are in a system
 - Make sure each vehicle is only in one system
 - Use hierarchy to simplify reporting?
 - Understand how incoming vehicle data interacts with existing data ("processing directives")

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Working with VLD from more than one MIS

- Processing Directives: control interaction between data in FAST and data in import stream...

FAST
Federal Automotive Statistical Tool

My Info Fleet Data VLD Budget Data

VLD Excel Data Import

Excel File: Choose File No file chosen

☒ Only validate — do not load — data from this file

Data Handling: ☒ Append data, blocking duplicate vehicle IDs

☐ Append data, updating data for duplicate vehicle IDs

☐ Purge data, removing existing vehicle & fuel data

Show: ☒ Failures per business rule

☐ Include data row comments (if present) in diagnostics

Note: Validating and processing data may take several minutes, depending on the amount of data being processed and current activity on the system's servers. Enhance your calm!

Upload Cancel Reset Form

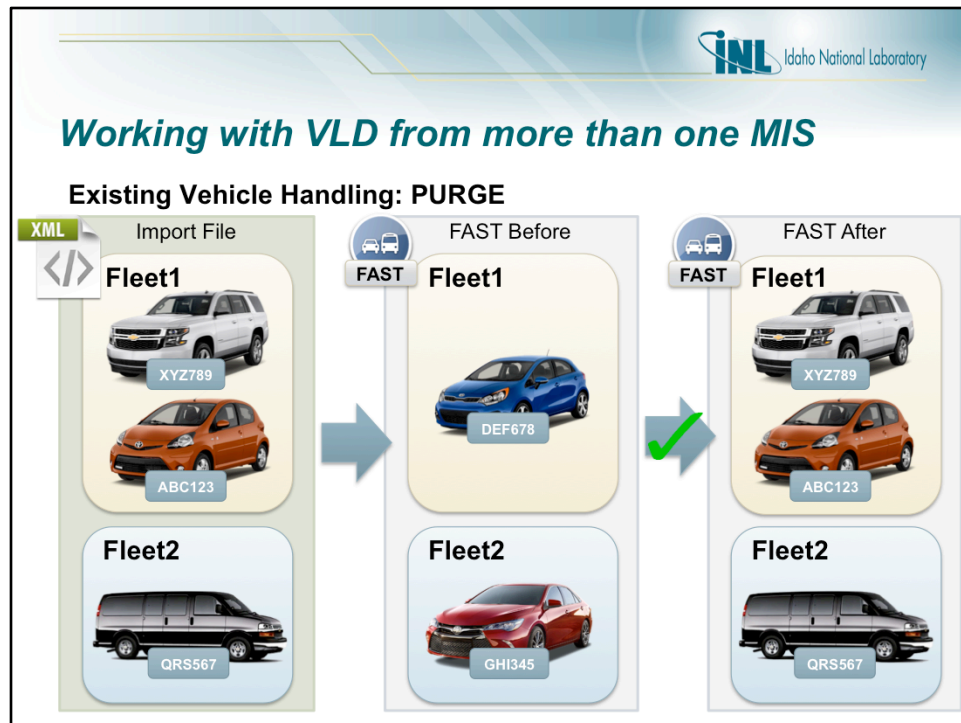
```
<?xml version="1.0" encoding="utf-8" ?>
<fv:fast-vld xmlns:fv="https://fastweb.inl.gov/xml/fast-vld"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://fastweb.inl.gov/xml/fast-vld https://fastweb.inl.gov/xml/fast-vld.xsd"
>
  <processing-directives year="2016" existing-data-handling="PURGE" />
  <fleet abbrev="Z-VLDA" poc-name="John A. Roberts" poc-email="john.a.roberts@inl.gov" id="z-vld" comment="
  <vehicle vid="ECBACCB-SE20-4521-BESC-27E9E8ED3315" make="WORKHORSE" model="Vehicle Model" year="201
  </vehicle>
  <fuel loc="FO" type="ELE" unit="KWH" vol="206" cost="10" id="F-5.4" comment="VolId"/>
  </vehicle>
  <vehicle vid="ACBACCB-SE20-4521-BESC-27E9E8ED3315" make="WORKHORSE" model="Vehicle Model" year="201
  <fuel loc="CA" type="ELE" unit="KWH" vol="206" cost="10" id="F-5.4" comment="VolId"/>
  </vehicle>
  </fleet>
</fv:fast-vld>
```

Processing directives (specified within the XML import stream and on the form in FAST used to upload Excel files) control how FAST will work with the data within the import file in conjunction with any data found within relevant portions of the agency's FAST reporting hierarchy.



Working with VLD from more than one MIS

- **Processing Directives – Choices:**
 - **Purge**
 - Drop any existing data, and ...
 - Load new data
 - **Append but fail on duplicate vehicles**
 - Retain any existing data, and ...
 - Add new data but fail if vehicles in new data already exist
 - **Append and update duplicate vehicles**
 - Retain existing data, and ...
 - Add new data and update any vehicles in new data which already exist

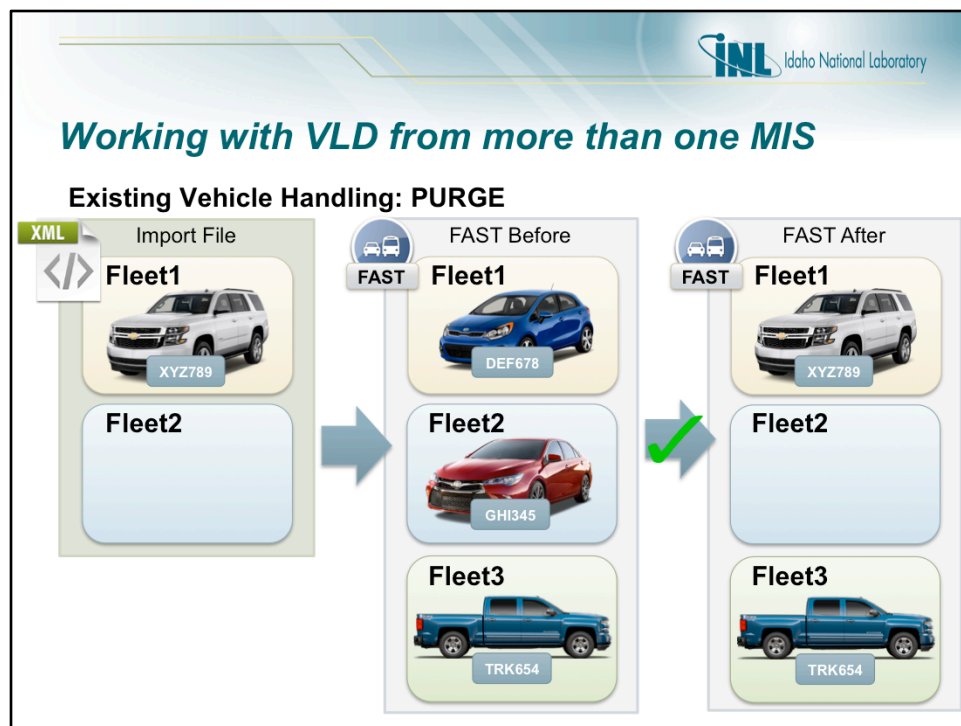


PURGE – A simple example

Left panel: Import file references two fleets, each with vehicles.

Center panel: FAST hierarchy contains (at least) those same two fleets, each with a vehicle.

Right panel: After a successful import, the use of the PURGE directive will result in all vehicles within the two identified fleets in FAST being removed, and the vehicles from the VLD import file now present in FAST.

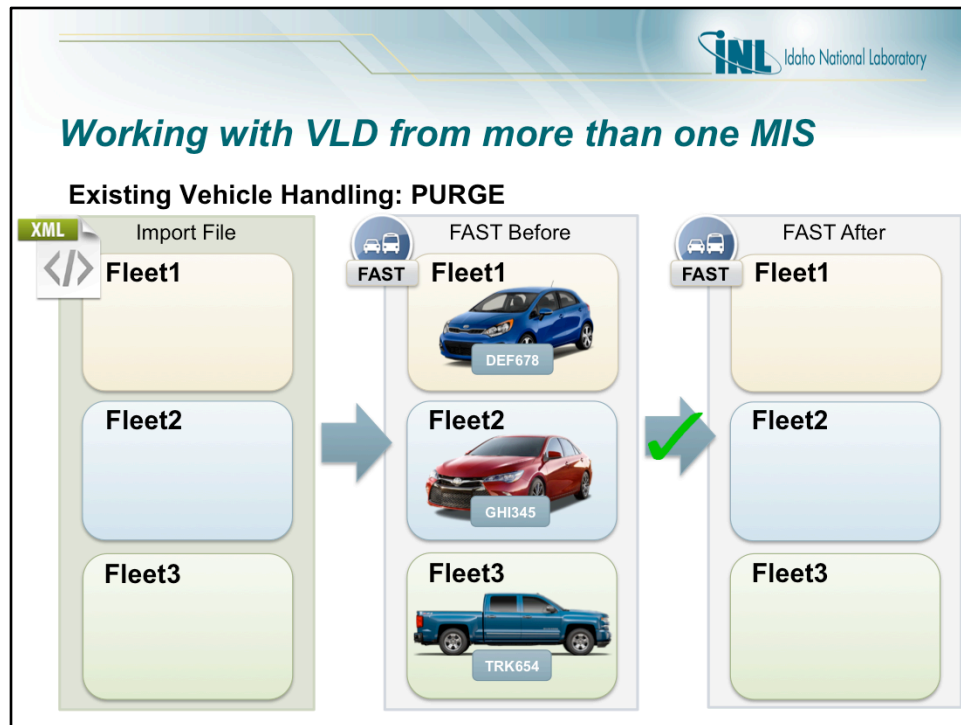


PURGE – Empty and existing fleets

Left panel: VLD import file references two fleets, one with vehicles and a second fleet with no vehicles.

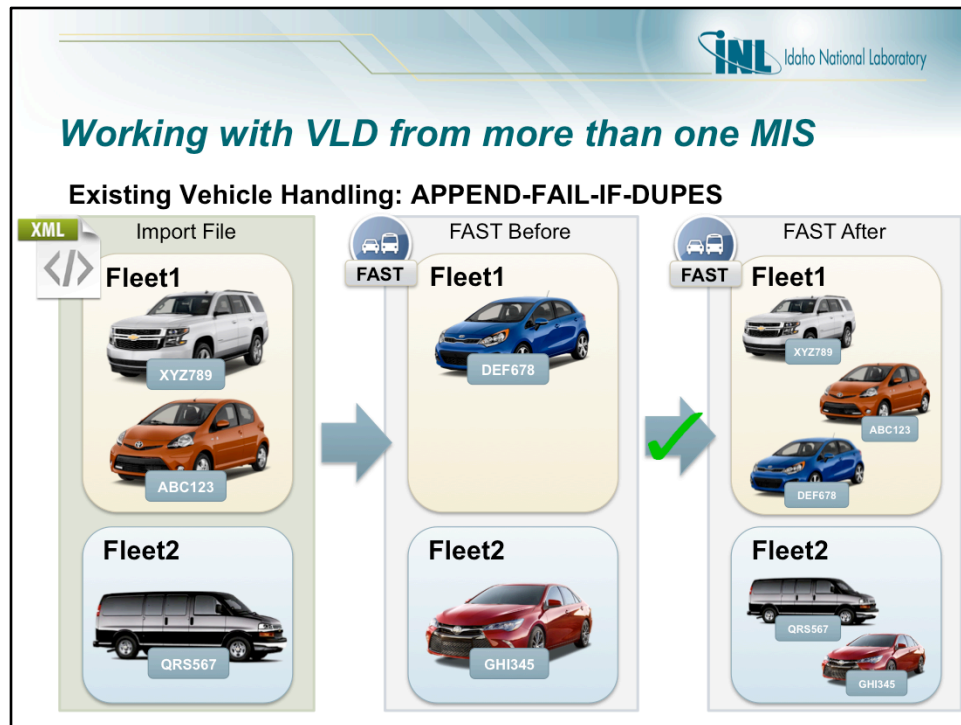
Center panel: FAST, prior to processing the import file, contains (at least) three fleets. The three fleets shown all contain vehicles.

Right panel: After the import file has been processed, the existing vehicles in the two fleets referenced within the VLD import file have been removed. The existing vehicles in the additional fleet in FAST that was not referenced in the VLD import file remains in place. The vehicles in the first fleet referenced in the VLD import file are now present in FAST. The second fleet referenced in the VLD import file (the empty fleet) is now also empty (i.e., it contains no vehicles) in FAST.



PURGE – Empty and existing fleets (continued)

This handling of empty fleets (i.e., fleets without any vehicles) in a VLD import file forms the basis for a simple way to purge all data from one or more fleets. Specify the fleets to be purged in the VLD import file, and then import it to FAST. The purge directive will result in all vehicles and their data within those fleets being removed from FAST. In the above example, if the reporting hierarchy within FAST also contained a "Fleet4" with vehicles at the time the above import file was processed, those vehicles in "Fleet4" would be left intact (as that fleet is not listed in the import file).



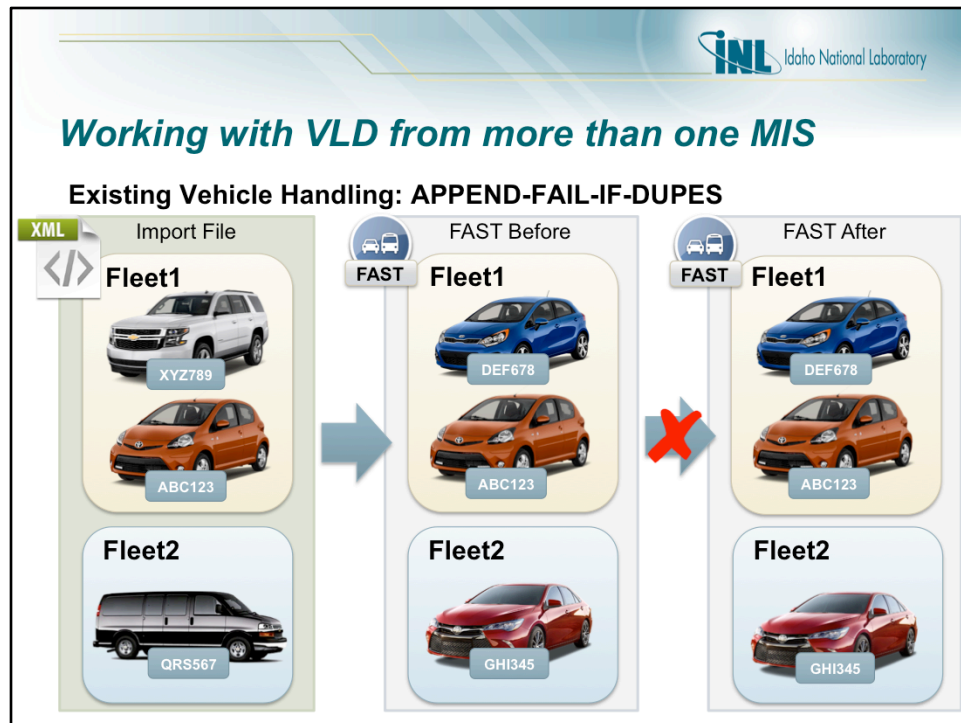
APPEND-FAIL-IF-DUPES – All unique vehicles

Useful for situations where data from more than one FMIS is being imported into shared fleets, and where you want to ensure that vehicles aren't replicated.

Left panel: Import file identifies two fleets, each with vehicles.

Center panel: FAST, prior to processing the import file, has those same two fleets. Each of those fleets has one or more vehicles, none of which are vehicles also referenced in the import file to be processed.

Right panel: After processing the import file, each of the vehicles from the import file is now present within the corresponding fleet in FAST and the vehicles that existed in those fleets in FAST prior to processing the import file remain present and unchanged.

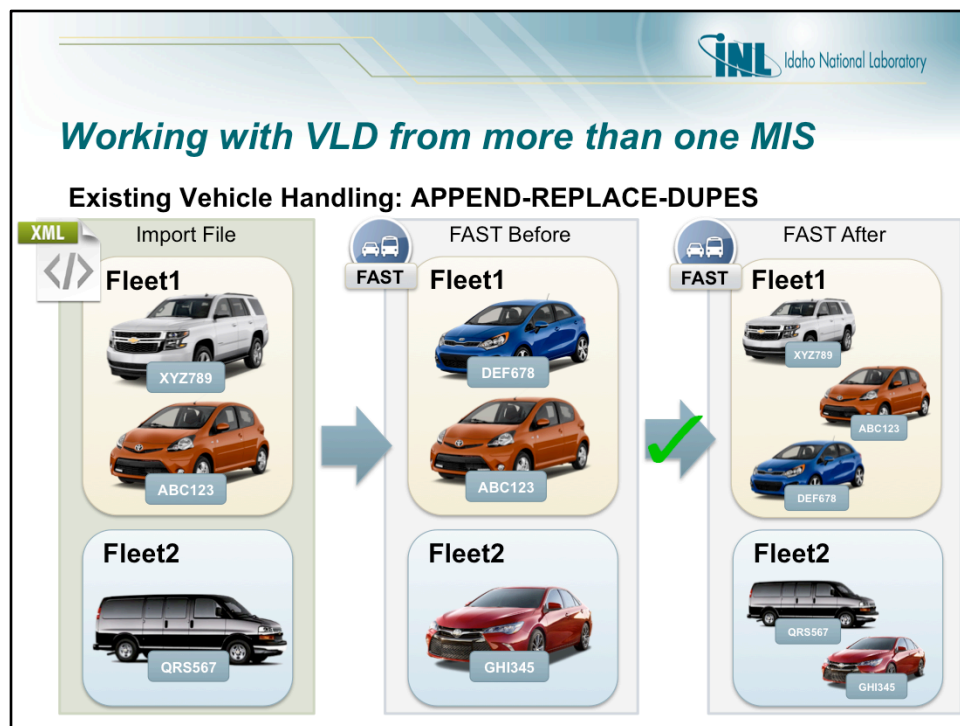


APPEND-FAIL-IF-DUPES – A vehicle identifier collision

Left panel: Import file contains two fleets, each with vehicles.

Center panel: FAST, prior to processing the import file, contains (at least) those same two fleets, and each of those fleets contains vehicles.

Right panel: The import processing will fail due to the collision caused by vehicle “ABC123” being present within the import file and also present in FAST. Because the import processing will fail, the vehicles in those fleets will remain in FAST just as they existed prior to attempting to process the import file.

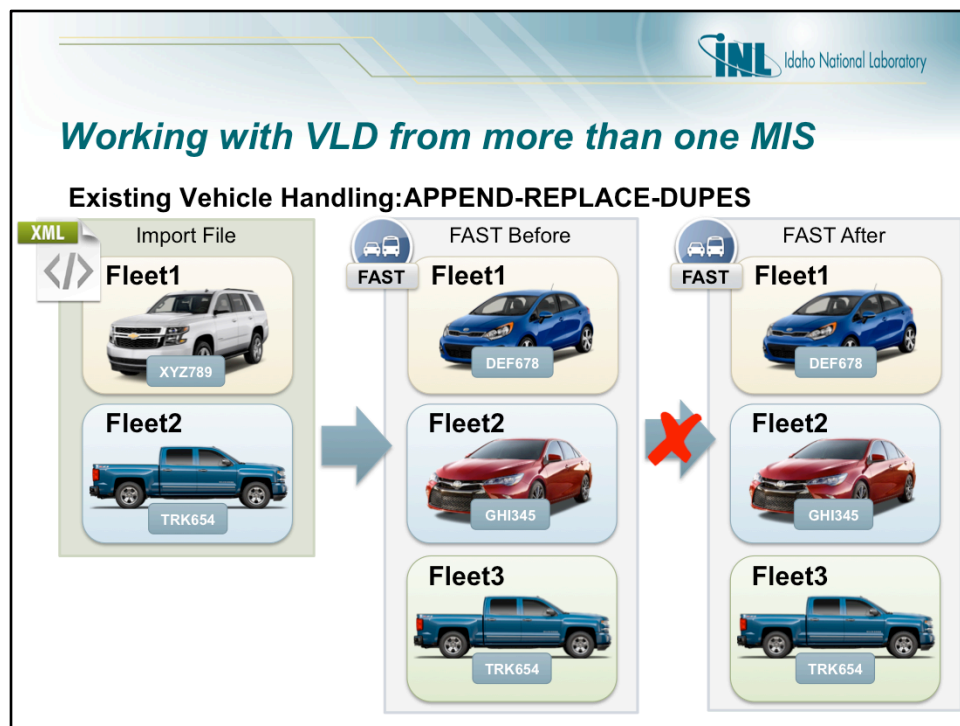


APPEND-REPLACE-DUPES – Updating existing vehicles

Left panel: Import file references two fleets, each with one or more vehicles.

Center panel: FAST, prior to processing the import file, contains (at least) those same two fleets, each with one or more vehicles.

Right panel: After processing the import file, any vehicles previously present in FAST will have been updated based on their attributes in the import file (e.g., vehicle “ABC123”). Vehicle “XYZ789”, which appeared in the import file only is appended to the vehicles already found in FAST. Vehicle “DEF678”, which existed in FAST prior to processing the import and which did not exist within the import process, remains in FAST just as it was prior to processing the import. The second fleet now contains the vehicle(s) from the import file (e.g., “QRS567”) in addition to any existing vehicles (“GHI345”).



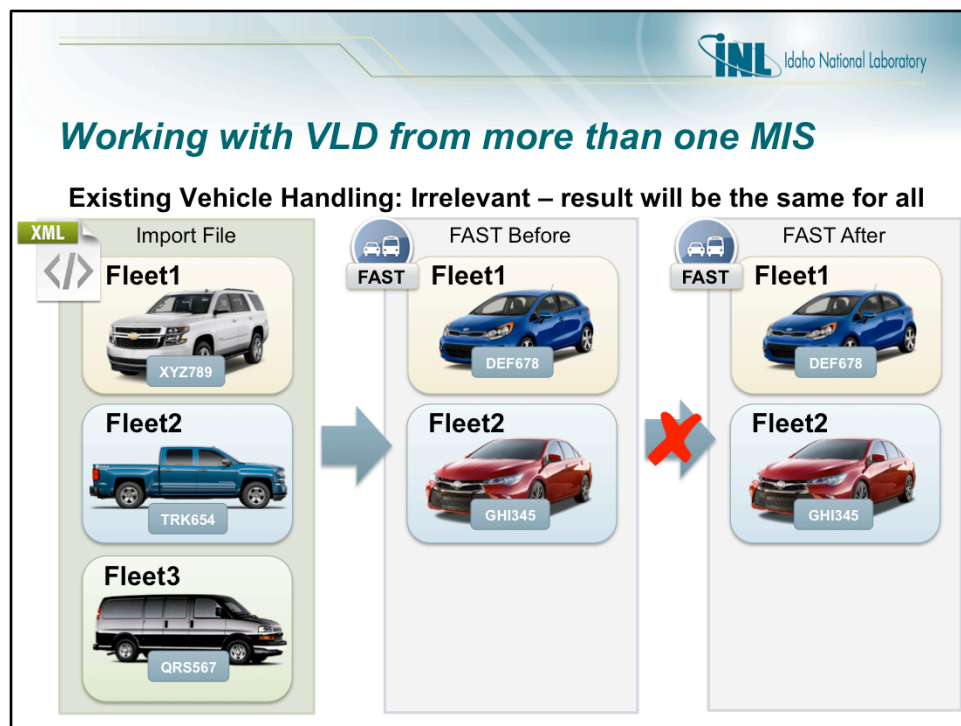
APPEND-REPLACE-DUPES – Not really a duplicate!

Left panel: Import file references two fleets, each with one or more vehicle. Note the presence of vehicle “TRK654” in the second fleet.

Center panel: FAST, prior to processing the import file, contains those same two fleets – each with vehicles – along with an additional fleet (also with vehicles). Note the presence of vehicle “TRK654” in the third fleet.

Right panel: FAST will fail to process this import file, based on the APPEND-REPLACE-DUPES directive in conjunction with what appears to be the same vehicle in two different locations in the import file and already existing in FAST. Because the import processing will fail, the vehicles will continue to exist in FAST exactly as they did prior to processing.

Note: if the import file had referenced vehicle “TRK654” in fleet 3 (rather than fleet 2) or if vehicle “TRK654” had existed in FAST in fleet 2 rather than in fleet 3), import processing would have succeeded. Furthermore, this import file will fail no matter the directive specified since it inherently violates the rule that a unique vehicle identifier can only exist in one place among an agency’s vehicles.




PURGE, APPEND-FAIL-IF-DUPES or APPEND-REPLACE-DUPES – Fleet does not already exist in FAST

Left panel: Import file references three fleets, each with one vehicle.

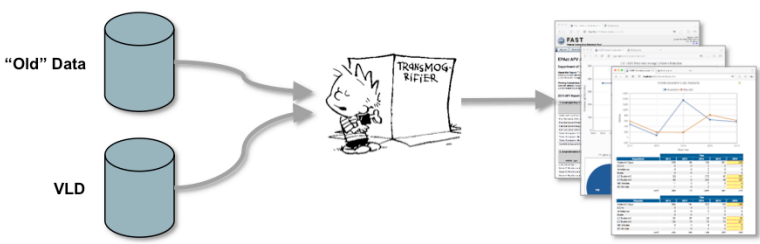
Center panel: FAST, prior to processing the import file, contains two, and only two, fleets – each with one vehicle.

Right panel: FAST will fail to process this import file, based on the fact that the import file has referenced a fleet that does not already exist in FAST. Because the import processing will fail, the vehicles will continue to exist in FAST exactly as they did prior to processing.



VLD and FAST Reports


- **Most existing FAST reports still work with VLD**




- **New reports take full advantage of VLD:**
 - Vehicle list / vehicle data sheet
 - VLD flags summary
 - New query types (vehicles, fuel, flags, future-year plans)
 - More VLD-specific reports to come...

Existing reports, showing both older aggregated data shape and VLD, will be particularly useful as agencies transition to VLD. Any significant changes shown in comparing VLD to historical data should be investigated and understood by the reporting agency.

Calvin & Hobbes "Transmogriker" image credit: Bill Watterson



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